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ABSTRACT

This paper describes and compares the processes of economic and social planning in France and the U.S.S.R., with particular emphasis on national educational planning and how it relates to the overall economic plan. Chapter 1 focuses on various aspects of integrating the educational plan into the overall social and economic plan, with particular attention to (1) the major functions of the central planning bodies and (2) the development of the educational system and the fundamental balances of the plan. Chapter 2 focuses on relationships between the characteristics and qualifications of the active population and the development of technical vocational training. Particular attention is devoted to (1) the relationships between employment planning and the development of specialist training in the U.S.S.R. and (2) employment projection in France and the tendency toward second- and third-level technical studies. Chapter 3 focuses on political and administrative aspects of school and university planning, with particular attention to (1) the predominance of political decision-making authority and (2) the distribution of authority between the central planning bodies and the ministries responsible for educational planning. (JG)

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INTEGRATING THE EDUCATIONAL PLAN INTO THE ECONOMIC AND SOCIAL PLAN: SOME ASPECTS OF FRENCH AND SOVIET EXPERIENCE

Raymond Poignant, Director, IIEP

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INTRODUCTION

(a) The importance of French and Soviet experience

The 1971-1975 five-year period corresponds respectively to the sixth economic and social development plan of France 1/ and the ninth Soviet national economy development plan 2/. Today, therefore, the USSR amongst socialist countries, and France amongst the planned 'semi-liberal' economies, have the longest experience in the field of economic and social planning.

Right from the first Soviet five-year plan, all economic and social activities, including education, were integrated into the plan. In France, the first plan covered only certain economic sectors considered as of priority importance during the initial relaunching of the French economy then devastated by the war (power, steel, transportation, farm machinery and building materials); by the second plan (1954-1957) all social and economic activites were integrated into the planning work, and the first educational plan relates to this period.

Owing among other things to differentiations in the organization of the production and distribution system, the French and Soviet plans differ both in the methodology of their conception and how they are implemented. In actual fact, the differences concern more how the plan is carried into effect than techniques for forecasting the future of the economy and determining growth targets.

(b) The specific nature of the French and Soviet experience

Although these two experiences are not strictly identical, at all events, both France and the USSR have fairly highly industrialised economies, and agricultural production accounts for only a minor share of the domestic product.

The experience gained by these two countries cannot therefore be simply transposed to other countries. However, certain guiding principles and methods of organization, and especially those concerning the relationships between the educational plan and the general economic and social plan, are of interest to all countries that aspire to improve or set up their own planning system.

1/ The first French plan covered the 1948-1953 period.

2/ The first Soviet plan covered the 1928-1932 period.

(c) The limitations of the present paper

Within the deliberately confined framework of this paper, it is not possible to present all the aspects of educational planning in the USSR and France. We must therefore confine ourselves to dealing in order with a number of major aspects 1/, leaving for the discussion a more detailed review of other matters which those attending the conference consider as of particular importance.

1/ The IIEP has already published in 1967, in French and English, a major work entitled 'Educational planning in the USSR'.

I. THE VARIOUS ASPECTS OF INTEGRATING THE EDUCATIONAL PLAN INTO THE OVERALL SOCIAL AND ECONOMIC PLAN

Within an overall planning concept, the educational plan cannot be prepared without reference to the general plan and in fact, quite on the contrary, forms part and parcel of this plan.

The educational objectives of the plan (general education, vocational and technical education, youth and adult education) form at one and the same time one of the major social objectives of the plan (raising the cultural level of the population) and one of the means of carrying the plan into effect (training of skilled and highly skilled workers). These objectives cannot be determined rationally without an understanding of the general pattern of development of the economic and social sectors as a whole. At all events, the material, financial and human means allocated to the educational system are necessarily taken into account in the fundamental economic balances, the conditions of which the economists strive to determine during the plan preparation period and the achievement of which they attempt to guarantee during the period of the plan.

A. The major functions of the central planning bodies

In both the USSR and in France, the bodies responsible for fact-finding and analysis in order to prepare the plan have the following main tasks:

(a) Exploration of possible avenues of development

The elaboration of possible models of the future economy from studies of the trend in individual and collective consumption; these models of the future economy take the form of 'projections' of the national accounts during the period covered by the plan.

The determination of variants of the growth rate, the respective development of individual and collective consumption, distribution of income, working hours, etc; these variants, the number of which cannot be unlimited, enable the political authorities to choose between the various possible policies.

(b) Co-ordination of the setting of sectoral targets

The 'rough outlines' of the plan prepared at the start of the planning process (by the Gosplan in the USSR and the Commissariat du Plan in France) and adopted as starting assumptions by the authorities must be thorough-going for each of the major branches of economic and social activity; the overall co-ordinating bodies of the planning system must sponsor and co-ordinate the work of specialist bodies (the Gosplan departments in the USSR and the 'vertical' committees of the Commissariat du Plan in France) responsible for exploring the trend in the various sectors.

(c) Permanent verification of the coherence of sectoral objectives and the fundamental balances of the plan

The purpose of the plan is to bring about as fast a rate of growth as possible. However, there can be no continuity in this growth unless fundamental economic balances are maintained.

1. Balance between labour supply and demand

(verification that human resources are fully employed and compatibility between the production targets and existing labour supply);

2. General economic balance

(production-consumption balance and inter-industry trade tables);

3. 'Export-import' balance

The desirable growth of foreign trade must as far as possible take place in balance and the plan must define how to achieve this balance;

4. 'Savings-investment' balance

This balance dictates the entire execution of the plan since, if savings (public and private) are inadequate, it is impossible to achieve the productive investments which govern growth of production and the collective investments (schools, hospitals, etc.) projected within the plan. The search for a rising rate of investment is one of the major difficulties facing planners 1/.

5. Balance between 'public resources and public expenditures'

In seeking this balance, the validity of the 'collective consumption' objectives within the plan can be guaranteed.

B The development of the educational system and the fundamental balances of the plan

Most of the various fundamental balances that have to be obtained to achieve steady growth call into question the nature and scope of the quantitative and qualitative expansion targets of the educational system.

(a) The balance between 'labour supply and demand' in a full-employment economy such as that of the USSR and France is dependent on the development of enrolments in two ways:

- quantitatively, the expansion of enrolments (raising the school-leaving age and spontaneous development of secondary and higher studies) temporarily reduces the number of young workers, and this factor must be allowed for when analysing the conditions of 'supply and demand' balance during a five-year plan; naturally, this consideration is particularly important in a country whose economy suffers from lack of labour (as has been the case in the USSR since 1945);
- qualitatively, skilled or highly-skilled worker demand can only be met in an expanding economy through vocational and technical training organized within or outside the school framework; from this standpoint, the demand of the economy for trained personnel is bound to influence the content of the training programmes in the educational plan, and we shall return to this point in the following chapter.

1/ This observation is particularly valid for the developing countries.

(b) The balance between savings and investments must allow for financing of construction of schools at all levels; this is no minor problem since the cost of building schools represents about 1 per cent of the Gross National Product (GNP) in most industrialised countries and in the majority of cases this cost is financed by public savings.

(c) The balance between public resources and public expenditures obviously allows for educational expenditures paid out of public funds (State budget, provincial or local budgets, i.e. in most cases the greater part of expenditures); allowing for the possible increase in public resources that can be expected from the growth of the economy, the problem comes down to predicting the share that can be allocated to the scholastic and extra-scholastic educational system with allowance for all other State-financed services (general education, health, defence, justice, etc.).

It is within the framework of such projections of the trend in tax revenue and the desirable allocation of public resources that the relative weight of the financial constraints on the quantitative and qualitative development of the educational system emerges. The burden of financial constraints varies with each country, even amongst developing countries 1/. However, for the most part, tentative projections of the limits of public resources that can be allocated to education during the period of the plan may oblige the planners:

- to set an order of priority for the objectives of the educational plan 2/;
- to resort to alternative enrolment methods (full-time school or evening classes, correspondence courses) 3/ in order to reduce expenditures;
- to seek other methods of financing (e.g. diversification of resources, etc.).

1/ For some, the tax revenue from petroleum products has radically changed the fundamentals of this problem.

2/ The first Soviet plan (1928-1932) limited the duration of compulsory schooling in rural areas to four years, and this rule was applied until 1949.

3/ The USSR has broadly followed this policy since the end of the Second World War at the secondary specialised and higher educational levels; furthermore, such a policy is not exclusively determined by financial conditions. With the ninth plan (1971-1975), on the other hand, the USSR wishes to generalise a complete secondary education (7 to 17 years).

II. RELATIONSHIPS BETWEEN THE DEVELOPMENT OF THE STRUCTURE AND QUALIFICATIONS OF THE ACTIVE POPULATION AND THE DEVELOPMENT OF TECHNICAL VOCATIONAL TRAINING

A. General considerations

(a) Vocational and technical training: an integral part of the educational plan

As we have seen (cf. Chapter I), the development of enrolments affects the balance of labour supply and demand; however, this aspect of the relationship between the development of the working population and that of enrolments is relatively marginal; it plays an important part only on the assumption of a severe quantitative shortage of labour. More important are the relations that must be established between: (1) the development of the employment structure and worker qualifications arising from the advance in production techniques and the expansion of the economy, and (2) the vocational and technical training programmes to be included in the educational plan.

Any school system has three ultimate aims: to train the man, the citizen and the producer. Training of the man (development of individual aptitudes and the personality) and that of the citizen (fostering participation of the child in social life, apprenticeship in democracy, etc.) have long been the essential objectives of educational systems. The requirements of economic development and, in particular, industrialisation have given the school a more important role in training the producer, from the skilled worker to the scientist.

Introduction of the 'labour demand' factor in preparing school and university plans still gives rise to scholarly controversies. At this juncture, we propose merely to confine ourselves to considerations of 'common sense'.

It is not a matter of deciding whether planned education must be established with the 'labour demand' approach or the 'social demand' approach. When setting the objectives of an educational plan, one has to analyse all the factors that may decide the pattern of development of the educational system:

- demographic: (development of school-age population)
- sociological: or 'social demand' (rising aspiration of families to see their children enrolled in all levels of education)
- economic: (need to train the skilled personnel needed for economic development)
- political: (relationships between the development of the educational system and democracy)

Of all these factors, vocational and technical training is only one amongst several elements. Its level of priority has varied historically; since, except for training in universities, vocational and technical training systems in schools are relatively recent; today, industrialisation 1/ has created rising needs to train skilled and highly-skilled personnel that can only be satisfied by specialised institutions (scholastic or extra-scholastic), the development of which is one aspect of educational planning.

1/ The new techniques of agricultural production.

(b) The difficulty of predicting the development of the structure and qualifications of the active population

The embodiment of additional vocational and technical training programmes in the educational plan presupposes initial exploration of the future requirements of the economy for skilled personnel. This prior assessment of requirements encounters a twofold difficulty:

1. The difficulty of making long-term employment forecasts

The initial difficulty is the time-lag between immediate short-term labour requirements, which arise from economic development during the four or five-year period of the plan, and the results of new training programmes 1/ embodied in the plan, which start yielding results only five to twelve years after the elementary education cycle, depending on the duration of training.

Except for accelerated vocational training for adults or short vocational training courses (one or two years), it is impossible to meet additional requirements for skilled labour or specialists within the period of the economic plan by means of new training programmes organized during it; in the main, these new programmes yield benefit only during the subsequent plan or plans.

For this reason, particularly at the higher level, vocational and technical training programmes should be directed in accordance with longer-term forecasts (ten or twelve years) concerning the structure and qualifications of the working population.

Now, it is universally accepted that these forecasts are highly difficult to make since they imply an understanding ten or twelve years in advance of:

- the structure of economic production by sector 2/
- the development of production techniques arising from the progress of research.

2. The nature of the correlationships between jobs and school qualifications

A second major uncertainty concerns the nature of the correlationships that must be established between jobs and qualifications. In order to translate labour demand into training programmes there must be correlationships that are known and relatively stable between the training imparted in the various types of school and the various job categories. Now, except for professions governed by

---

1/ Which in most cases imply the setting-up of new establishments and training delays which are very often extremely long.

2/ At a certain level of development, it is increasingly difficult to predict the pattern of consumer behaviour and the nature of future production programmes of goods or services.

rules and regulations (doctors, public office, etc.) these correlationships are only too often inadequately known; furthermore they are not rigid in character and may vary with time as a function of the very development of the educational system 1/.

The outcome of this, as an examination of actual conditions shows, is that highly diverse qualitative solutions can be given to training systems for the same job.

For industrialised countries such as France and the USSR, the current trend is first to organize all vocational and technical training on the basis of a wide general education (8, 9, 10 or 12 years) and second to make such training as multivalent as possible 2/. This is a desirable policy from all standpoints. However, it is expensive; owing to financial constraints, it cannot be purely and simply transposed to the developing countries.

B. The nature and importance of the relationships between the planning of employment and the development of specialist training in the USSR

(a) General principles

The USSR is undoubtedly one of the countries of the world in which planners have made the greatest efforts to co-ordinate training programmes for skilled and highly-skilled personnel with forecasts of requirements arising from economic development.

The Soviet methodology for planning the training of skilled labour (industry, agriculture, services, etc.) and specialists (medium and higher-level supervisory staff) is described in detail in the IIEP publication 'Educational planning in the USSR' (Paris, 1967 - 295 pages). In the present paper we can do no more than summarise some of the salient features of Soviet experience, confining ourselves to the planning of medium-level staff (technicians, etc.) and higher-level staff 3/ (scientists, teachers, engineers, doctors, lawyers, sociologists, etc.).

As regards vocational training of skilled or semi-skilled labour, the 'balances' of labour drawn up within the framework of the five-year plan reveal quantitative and qualitative requirements which provide a basis for school vocational training programmes (vocational and technical schools under the State Committee of the Council of Ministers) or out-of-school training (shorter training organized by enterprises).

1/ The evolution of the specialist qualifications of the working population governs the scope and nature of vocational and technical training programmes. However, conversely, it is the development of the educational system itself (for instance the length of compulsory general education) that governs the level of general qualification of the labour market as a whole, aside from purely professional requirements.

2/ To facilitate the retraining and subsequent refresher courses that will be required by new techniques.

3/ In the USSR the expression 'middle and high-level executives' is embodied in the designation 'specialists', i.e. staff formed in higher education establishments (universities and specialised institutes) and secondary specialised establishments (technicums).

The preparation of 'specialists' training programmes to be carried out in the framework of a five-year plan is based on a prior review of medium and long-term requirements. Since 1928, Soviet planners have striven to develop the most rational forecasting methods possible; these methods have gradually been improved in the light of experience.

Right from the outset, two methods were used:

- the first, mainly synthetic, is based on the long-term extrapolation (10 years) of supervisory staff trends in the various branches of economic and cultural activity: this is the 'saturation rate method' (Coeffitsient nasyshchennosti) 1/.
- the other, which is more analytic, is founded on detailed enquiry among enterprises and services to learn the requirements for specialists expressed by users during the period of the plan (five years). These surveys are conducted on the basis of an official classification of jobs to be filled by specialists with higher or specialised secondary training (nomenclatura dolzhnostei).

The purpose of these projections is to assess the number of specialists (renewal and additional demand) who are to start work during the period studied and on this basis to determine year by year the demand for recruitment in specialist training establishments. In this way, the recruitment requirements by speciality 2/ established by the Federal Gosplan and the Gosplans of the Republics working jointly with the Ministry of Higher and Secondary Specialised Education and the Economic Ministries are used for determining enrolment quotas in training establishments 3/, thereby fixing the development plan of these establishments.

Naturally, this is not purely and simply a 'linear' extension of the existing system of staff training, since at the same time the services of the departments of the Ministry of Education for Higher and Secondary Specialised Education consider the changes necessary in the syllabuses of the specialisations already being taught or the creation of new specialities rendered necessary by scientific and technical development.

(b) Method of appraising requirements for specialists on the basis of job classification

This method starts with the preparation of a job classification for all sectors of activity (industrial, agricultural, commercial, tertiary, etc.) which must in principle be filled by people holding a diploma from the 'technicums' or higher-education establishments. In this classification, the level of training and speciality required is laid down for each occupation.

1/ The word 'saturation' does not evoke the idea of maximum, but rather that of 'desirable' or 'optimal' rate.

2/ According to the list of specialities taught in higher and secondary specialised education establishments.

3/ The enrolment 'quotas' include all training methods: full-time, evening classes and correspondence courses. Each university dean receives every year instructions concerning the number of students to be enrolled by speciality and method of training.

Naturally, in real life, particularly during the initial Soviet plans, not all the jobs considered could be satisfied by those holding diplomas and many were filled by 'practicians' ('praktiki') who compensated for the lack of a diploma by professional experience; gradually, with the development of school training, the 'specialist' jobs are tending to be set aside for those holding diplomas, and enrolment programmes for training establishments are prepared accordingly.

The starting-point for projecting staff requirements in the USSR is therefore the predetermination of an official 'jobs-qualifications' balance.

The requirements of economic undertakings and administrative departments are subject to periodic investigations; they are assessed on the basis of concrete development plans for the domestic economy and culture.

These are transcribed on standard forms drawn up by the Gosplan and the Federal Ministry for Higher and Secondary Specialised Education and collated at the various hierarchical levels.

Demand projections are prepared:

- either for the period of the five-year plan (medium-term projections),
- or for each year of the plan (annual surveys).

The medium-term projections (five years) are prepared when the plan itself is prepared and are used in part (see later) for preparing training plans; projections for the coming year are used to develop distribution and employment plans for young specialists leaving the educational establishments.

The questionnaires filled in by the enterprises or administrative departments indicate the total number of jobs and the number of specialist jobs; this information shows the proportion of specialists to the total number of workers for each branch of activity and the ratio between the number of specialists with higher or with secondary training.

This method provides precise information (insofar as the enterprises are capable of accurately expressing their requirements) on the number of specialists needed during the period of the plan, though it does not permit the long-term projections (ten to twelve years) which are indispensable for planning:

- the enrolments for each year in the five-year plan;
- the extension of the physical infrastructure of training establishments;
- the recruitment and training of the teaching staff for these establishments.

For these reasons, a second method of evaluating requirements for specialists, known as the 'saturation-rates method', is used in parallel with the first one.

(c) Method of assessing requirements for specialists on the basis of the 'saturation rates'

Whereas the 'job-classification' method is applied on the basis of concrete medium-term plans known by each enterprise or service, the 'saturation-rates' method is based on an overall view of the longer-term development of the working population, its breakdown by major sector of activity and the development of the proportion of higher staff in each branch.

The major stages in this forecasting work are:

1. Evaluation of the potential working population on the basis of general population projections.
2. Forecasts of the distribution of the working population by major economic sector, allowing for the long-term prospects of the development of production and productivity for each.
3. Study of the present proportion (per 1,000 workers) of secondary and higher-education trained specialists in the various sectors and its trends in the past.
4. Extrapolation according to methods peculiar to each sector of the trends noted in the development of supervisory staff up to the period planned.
5. Corresponding assessment of the 'stock' of specialists needed during the various years of the period covered by planning, from which are deduced the recruitment requirements and training plans (enrolment levels in the various types of establishment).

The reasoned extrapolation of past trends (item 4 above) leads to an overall appraisal of the number of specialists per branch, which must then be broken down into groups of specialities. This breakdown is made using other techniques: one must analyse the structure of the specialisations for each branch of activity while, without extrapolating mechanically, attempting to imagine the future structure of specialisations (ten to twelve years in advance), basing oneself on recent trends 1/ or on the study of the structure of the most modern enterprises in the branch under consideration.

(d) Complementarity of the two projection methods used and the difficulty of the problems to be solved

The 'classification' method gives relatively accurate information on the desirable trends in staffing during the period of the plan; for instance, for the 1966-1970 (eighth) plan, it gives a detailed picture of the working population in 1970. The elements thus provided for 1970 represent a vital pointer for the subsequent extrapolations made in the 'saturation-rates' method.

In addition, by using the two methods simultaneously during the period of the five-year plan, results can be compared, difficulties pinpointed, and one can come to closer grips with the real problems.

1/ These trends are revealed by surveys conducted using the 'classification' method.

In theory, the combination of the two methods is a logical solution to the problems as a whole, namely:

- long-term (ten years or more) projections based on medium-term projections enable the enrolment programmes for each year of the plan to be determined, together with the relevant additional requirements (premises, teachers, etc.);
- yearly enquiries of enterprises represent the basic tool for placing in employment the specialists leaving the educational establishments.

In actual fact, the application of these forecasting methods raises highly complicated problems which it is difficult to solve completely, owing firstly to the rapid development of production methods and techniques and secondly to the uncertainty as to the quantitative development of production per sector.

A knowledge of requirements for specialists ten years in advance presupposes that the production techniques that will be employed in two years' time are likewise known. Owing to the rapid pace of scientific and technical progress, any such projection is extremely speculative. In the absence of any better solution, as has been stated, Soviet planners use the best possible approximations and in particular assume that in a future which varies with the period of use of the investments, the sector as a whole will employ the production techniques of the most up-to-date existing enterprises.

Furthermore, long-term prospects (ten or fifteen years) of production per sector, which form the basis for the breakdown of the working population [paragraph (c) 2.] are themselves highly uncertain, owing to possible changes in consumer behaviour or, in particular, to new changes in the use of raw materials 1/, and a margin of error is practically unavoidable in this area.

(e) Conclusion

These difficulties show that the projections of Soviet planners do not constitute a simple mechanism which can infallibly adjust the fluctuating needs of a constantly changing economy but are, on the contrary, a complex undertaking whose methodology must be continuously improved.

C. Projection of employment in France and the tendency towards second and third-level professional and technical studies

We propose here to confine ourselves to the experience of the fifth French plan (1966-1970).

1/ For instance, replacement of metal by plastics.

(a) The long-term employment projections (1978) of the Labour Committee of the Commissariat General du Plan

With the fifth plan, the Labour Committee of the General Commissariat for the Plan studied the conditions of equilibrium of labour supply and demand during the period concerned, while also attempting to discover what would be the best training to give the five million Frenchmen who would commence their working lives between 1971 and 1978.

The study of the development of the employment structure up to 1978 was conducted using the method of reasoned extrapolation of trends since 1954 (similar to the 'saturation rates' of the USSR).

The jobs to be provided were classified into six qualification levels, as under:

Level I : 'post-graduate' higher studies

Level II : first-degree higher studies

Level III : short-cycle higher studies (e.g. University Institute of Technology)

Level IV : baccalauréat and technical certificate

Level V : skilled worker certificate

Level VI : compulsory school-leaving certificate

For each of these levels (except Level IV), jobs are broken down by major type of training. Table 1 gives the results of these projections for the 1962-1970 and 1962-1978 periods 1/.

From Table 1 one can see that the 5,300,000 workers starting their active life between 1971 and 1978, must have the following qualifications:

Levels I and II : 10.3 %

Level III : 11.0 %

Level IV : 12.5 %

Level V : 43.3 %

Level VI : 22.9 %

1/ The 1971-1978 period can be obtained by subtraction.

Table 1. Requirements by level and type of training 1/

		1962-1970	1962-1978
Levels I and II :	Higher education graduates		
I A	Law and commercial	161.0	329.8
I B	Science and engineering	213.6	444.6
I C	Humanities	90.5	192.3
I D	Medicine and pharmacy	52.7	114.9
I X	Other level I and II training	7.8	16.9
	Total	525.6	1 098.5
	as % of main total	9.8	10.3
Level III :	Holders of diplomas from the University Institutes of Technology 2/		
III DC	Law and commercial	183.7	357.1
III E	Education	125.3	309.2
III L	Humanities	23.5	58.6
III S	Science and engineering	110.8	241.5
III SS	Health and social	79.9	204.6
	Total	532.2	1 171.0
	as % of main total	9.7	11.0
Level IV :	Full baccalauréat and technical certificate		
IV A	Agriculture	72.8	132.7
IV B	Industry	221.0	499.2
IV C	The administration (civil service)	179.9	359.7
IV D	Commercial	153.8	272.2
IV SS	Health and social services	11.0	27.4
IV X	Other training at full baccalauréat or technical certificate level	19.2	46.7
	Total	657.7	1 337.9
	as % of main total	12.3	12.5
Level V :	Holders of C.A.P. and B.E.P.C. diplomas		
V A	Agriculture	94.4	167.5
V B	Industry	1 241.9	2 361.2
V C	The administration (civil service)	505.1	961.9
V D	Commercial	248.3	434.5
V SS	Health and social services	87.9	204.0
V X	Other C.A.P. level training	226.2	486.2
	Total	2 403.8	4 615.3
	as % of main total	44.9	43.3
Level VI :	Compulsory school-leaving certificate	1 249.0	2 440.2
	as % of main total	23.3	22.9
	GRAND TOTAL	5 359.3	10 662.9
	percentage	100.0	100.0

1/ The table embodies the effect of occupational changes of farm workers.

2/ Or equivalent establishments.

(b) Determining the flows of students to be trained at the various levels

Table 2 shows the average flows of pupils and students adopted as target for 1972-1975 in the fifth plan.

A comparison of Table 1 with Table 2 shows that flows of pupils emerging from the educational system and which form the objective of the end of the fifth year have been patterned 1/ on the mean structure of the qualifications of the population which will start working life between 1971 and 1978 2/:

- 12 per cent of the age-groups must enter 'long' higher education
- 8 per cent of the age-groups must enter 'short' higher education
- 15 per cent of the age-groups must enter technical second-cycle secondary (technicians) education
- 40 per cent of the age-groups must take full-time vocational training
- 25 per cent will start active life directly on leaving school, with part-time vocational training

In this way, a close link is set up between the desirable qualifications of those newly joining the working population, laid down by the Labour Committee, and the development that it is desired to impart to the educational system through the objectives of the fifth plan.

(c) Pupil and student guidance: the deciding factor in achieving the objectives of the French educational plan

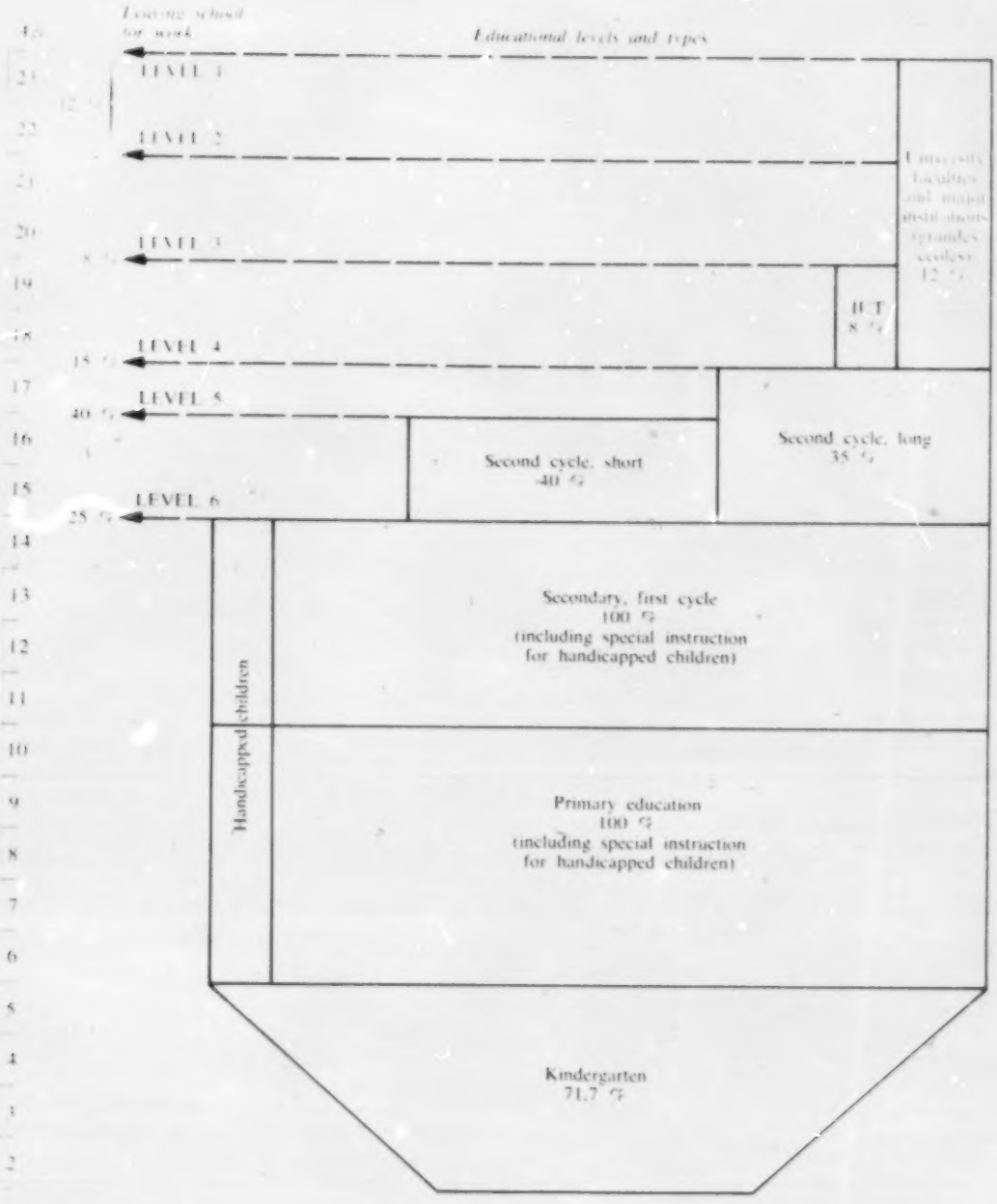
The fifth educational plan (1966-1970) must therefore result in the creation of a training 'supply' corresponding to the desirable structure of the qualifications of those joining the working population between 1971 and 1978. This supply has in fact been gradually created by carrying out the investments provided in the fifth plan. However, to carry out the plan properly, pupils and students must follow career lines in accordance with this supply.

In second-level education the guidance system, which is organized systematically at the end of the common secondary first-cycle stream, has succeeded in dividing the flows of pupils in accordance with the major objectives of the plan; e.g., at the beginning of the 1970-1971 school year enrolments in the various second-cycle secondary establishments (classical and modern lycées, technical lycées and technical education colleges) corresponded closely to the proportions laid down by the plan (22 per cent, 13 per cent and 40 per cent of the respective age-group) for 1972-1973.

1/ Assuming that there is a continued percentage of internally promoted adults trained 'on-the-job'.

2/ These are overall objectives which are sufficient to determine the amount of investment and the additional human and financial means to be included in the plan. The programmes detailed by speciality are prepared using other methods.

Table 2. Average flows of school and university enrolments, 1972-75


Existing school for work
Educational levels and types
LEVEL 1
LEVEL 2
LEVEL 3
LEVEL 4
LEVEL 5
LEVEL 6
University faculties and major institutes; grandes écoles; 12 %
IUT 8 %
Second cycle, long 35 %
Second cycle, short 40 %
Secondary, first cycle 100 % (including special instruction for handicapped children)
Handicapped children
Primary education 100 % (including special instruction for handicapped children)
Kindergarten 71.7 %

At the higher-education level the difficulty is much greater since, as opposed to the situation in the USSR 1/, those holding the French secondary education baccalauréat are free to enrol in whichever faculty they choose (Arts, Science, Medicine, Law, Economics, etc.). Owing to inadequate information and also owing to 'pre-orientations' which result from the unenlightened choice of specialisations in secondary terminal classes, in 1970 considerable discrepancies appeared between the outgoing flows of higher education graduates (too many in Arts, lack of engineers and business and management specialists, etc.) and the forecasts summarized in Table 1.

In the USSR, the student guidance problem has been solved by setting enrolment 'quotas' established for each speciality on the basis of the long-term projections for requirements of the higher specialists. In France, it would appear politically difficult to generalize the 'numerus clausus' system to higher education as a whole, and a solution is being sought in organizing a more effective student guidance system (in 1970, the 'Office National d'Information Scolaire et Professionnelle' or 'O.N.I.S.E.P.' was set up).

D. Conclusion

The Soviet methods and the French methods 2/ which concern the relationships between the development of the structures and qualifications of the working population and the determination of the objectives of vocational and technical training that must be embodied in educational plans yield a wealth of information in all respects and would well repay consideration in greater detail. In the present paper it has merely been possible to show their guiding lines.

Two main lessons can be drawn:

1. First, that it is possible to make long-term employment projections that can be used for planning vocational and technical training. This belief is questioned 3/ but this purely negative questioning is of practically no value; it is better to have projections which may admittedly be imperfect than no projections at all, since in any event one inevitably has to decide what direction vocational and technical training programmes are to take (second and third levels in the educational system).

1/ Except for engineering and business schools, where recruitment is based on a 'numerus clausus'.

2/ At least those of the fifth plan (1966-1970).

3/ In France in particular, by those who suspect such projections as possibly encroaching on the free choice of higher studies.

2 Second, that it is essential to have available good statistics and studies of the development of employment and its deciding factors in order to make projections with an adequate degree of probabality. This is entirely a problem of organization and human and financial means 1/ and, in the final analysis of political will.

3 In any case, for the reasons demonstrated above, it is certain that all long-term employment projections, no matter how sophisticated, will contain an unavoidable margin of error; the solution can be found only in seeking for more 'polyvalent' training, which will assist the subsequent necessary adaptations in training for employment, and in the organization of an effective system of permanent education.

1/ Only too often the possibility of seriously exploring the development of the working population is prevented by the failure to provide the necessary minimum of facilities for information and research which are the indispensable pre-requisite of any projection.

III. POLITICAL AND ADMINISTRATIVE ASPECTS OF THE ORGANIZATION OF SCHOOL AND UNIVERSITY PLANNING WORK IN FRANCE AND THE USSR

A. The necessary predominance of the decision-making powers of the political authority

In all democracies, the relationship between the technical bodies responsible at the highest level for preparing plans and the political authorities is a fundamental problem; owing to the increasing importance of the role of high-level planning technicians, one must:

- firstly, organize a broad participation of the rank and file in the elaboration and execution of the plan;
- secondly, maintain strict control and a true decision-making power by the political authorities over all the planning process stages.

The solution to these problems differs with the political regime. In the USSR, as in France, 'draft plans' 1/ prepared by technical services are discussed by the Council of Ministers 2/ before the governmental directives on the preparation of the plan are drawn up. All stages in the planning process must be supervised and submitted to the permanent choice of the political authority, the technician's assignment being confined to proposals and the preparation of alternatives.

In the USSR, the five-year plan is adopted by the Party Congress; the ninth plan (1971-1975) was adopted by the 24th Congress in April 1971, on the basis of the report of the President of the Council of Ministers of the USSR. The annual plans are adopted by the Supreme Soviet.

In France, since the fifth plan, the plan is discussed in two separate parliamentary debates. The first concerns the major policies of the plan and the second, a year later, the detailed programmes.

B. Distribution of authority between the central planning bodies and the Ministry (or Ministries) responsible for educational planning

(a) The content of the educational plan and the multiplicity of the levels and types of decision

According to the strict theory of educational planning, the plan must embody all the quantitative and and qualitative aspects of the development of the educational system.

In actual fact, one must realise that this overall conception of educational planning comprises a whole set of widely different decisions:

- with respect to their level, some fall within the province of Parliament, the Council of Ministers, or Councils of the local authorities and educational establishments;
- with respect to their nature, some involve major financial decisions prepared by the central planning bodies and decided by the political authorities, while others concern quantitative or qualitative objectives that are increasingly specific and are decided by the various levels in the administrative hierarchy.

1/ Together with variants.

2/ And, in the USSR, by the directing bodies of the C.P.S.U.

It is therefore pointless to attempt to find in the 'educational plan' adopted by Parliament anything more than the major quantitative objectives (development of school enrolments) and very broad guiding lines as to the qualitative pattern of the educational system 1/.

This remark applies equally well to both the USSR and France.

(b) The powers of the central planning bodies and co-operation with the Ministry (or Ministries) responsible for the educational system

Owing to what was said in Chapter I on the part played by the central planning bodies in preparing the draft plans and controlling the cohesiveness and fundamental balances of the national plan, in the USSR, the Gosplan, and in France the Commissariat du Plan, have the task of preparing the decisions of the political authorities which set the framework of the financial effort that can be made for general education and for technical and vocational training.

The decisions can be prepared only by means of a thorough appreciation of the development objectives of the educational system, which is why, in both the USSR and France, the central planning bodies have their own facilities for preparing the educational plan (the Education Department of the Gosplan and the Educational Committee of the Commissariat du Plan).

The central school planning bodies are obliged to work in close collaboration with the Ministry (or Ministries) responsible for the educational system, which must have its own planning units (the 'Service du Plan', in France, and the Planning and Finance Directorates in the Soviet Ministries).

For instance, the flow-chart shown in Table 3 summarizes the working relationship between the Commissariat du Plan in France and the Ministry of National Education for preparing the fifth plan (1966-1970).

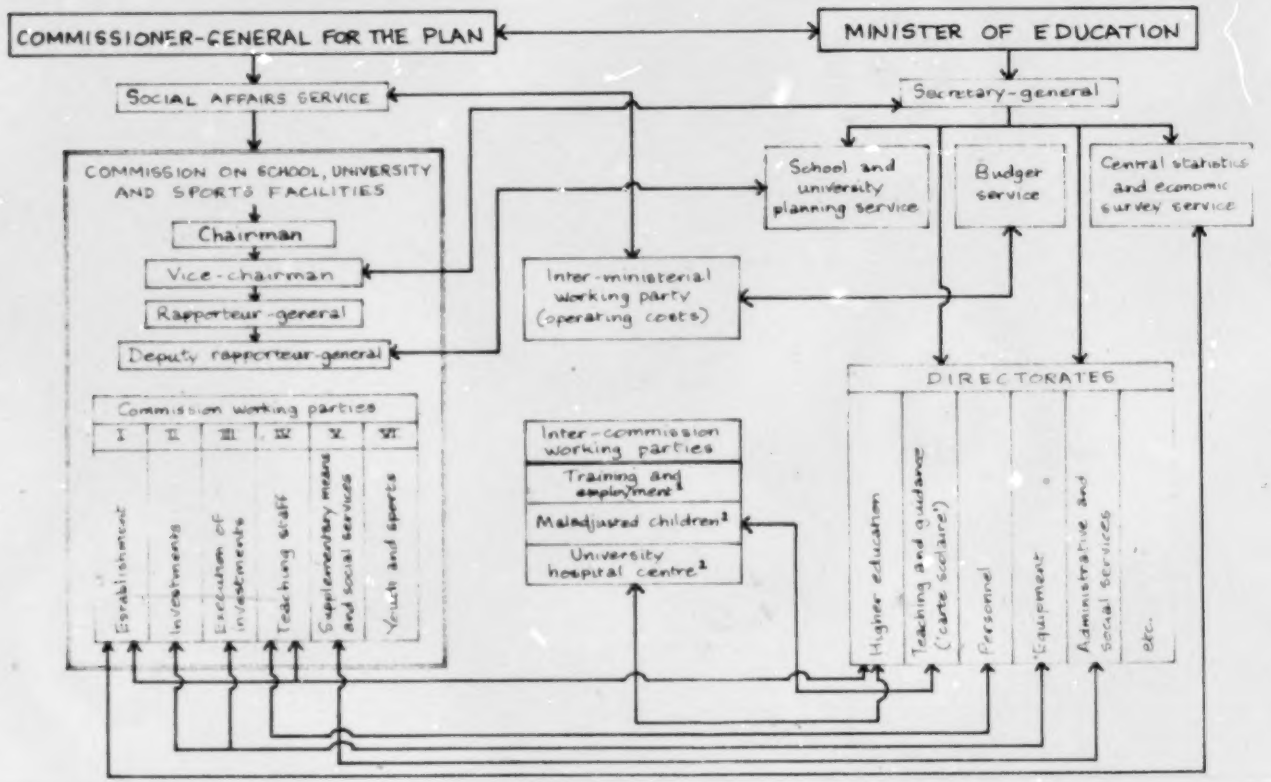
(c) The competence of the Ministry of National Education

Notwithstanding the authority of the central planning services in preparing the school plan, in both France and the USSR the Ministry (or Ministries) responsible for education remain the technical body responsible for national educational policy and in theory retain full authority, within the framework of legislation and government decisions, in such fields as:

- structural reforms of the educational system at all levels;
- fixing timetables and syllabuses;
- organization of examinations, etc.

1/ When voting on the plan or in the separate bills, Parliament can adopt main directives concerning the reform of syllabuses and methods of education, but the concrete implementation of the directives is the outcome of a whole set of decisions by the Ministry of National Education.

Table 3. Inter-relations between the Ministry of National Education and the Commissariat du Plan



1. Manpower commission and School and university commission.
2. School and university commission and Health facilities commission.

In addition, the actual implementation of the plan (creation of new establishments, recruitment and training of teaching body, etc.), fall within the province of the Ministry of National Education in France or the various Ministries involved in the USSR, under the control, it is true, of the Planning Ministry 1/.

(d) The inter-relationships between the economic and financial aspects and the pedagogical aspects of the school plan

As has already been stated, one can in theory distinguish between the economic and financial responsibilities of the central planning organizations and the 'pedagogical' responsibilities of the Ministry of Education in defining the content of the school plan.

In actual practice, this distinction is no easy matter, for a variety of reasons:

- Any pedagogical reform (school building standards, timetables, length of studies, etc.) has financial repercussions, and in this respect invariably comes before the economic authorities who must choose 2/ between the qualitative improvement of the educational system and other possible uses for the same amounts of money. This consequently leads, to a certain extent, to the central planning bodies making judgments in strictly pedagogical fields 3/.
- In anything involving vocational and technical training the central planning bodies, in their capacity as the responsible instrument for employment and economic development policy, have a direct interest in the policy pursued in these areas; accordingly, qualitative reforms concerning vocational and technical training cannot be prepared without a dialogue between the Ministry of Education 4/ and the Ministry for the Plan.

The fundamental principle laid down in Chapter I, namely that the educational plan forms part and parcel of the economic and national social plan, thus compels the Ministry of National Education and the Ministry for the Plan to co-operate closely.

It should be noted that this co-operation in educational planning should not be confined to the work of these two administrative departments, but should extend through their qualified representatives to all directly concerned with the operation of the educational system (parents of pupils, teachers, representatives of the local communities, employee and worker federations, student bodies, etc.).

1/ This expression covers the various forms that the central planning bodies may assume.

2/ Or evaluate the degree of urgency.

3/ Where necessary, and as far as possible, by using such methods as 'cost-effectiveness' or 'cost-benefit' analyses.

4/ In the USSR, the State Committee for Technical and Vocational Training.

IV. GENERAL CONCLUSION

To conclude, we would again emphasize the complexity of the relationships that must unify the economic and social plan as a whole with the educational plan in particular

- since in the medium and long-term the educational plan determines the advancement of the level of culture of the population, it is a fundamental factor amongst the social and democratic objectives of the national plan;
- since it sets the targets for vocational and technical training, the educational plan is one of the essential instruments in achieving the plan (and subsequent plans).

In the final analysis, the social, democratic and economic content of the educational plan comes down to a matter of financing. From this standpoint, and allowing for the inevitable financial constraints, the objectives of the educational plan must be weighed against the alternative objectives and means for social and economic development.

The ideal of certain planners would perhaps be to have mathematical 'models' available which would enable the allocation of resources to be optimized throughout the various sectors of economic and social development, including education. Up to now, no model has turned out to be truly operational and, in both the USSR and France, choices are still made with a certain degree of empiricism, where the common sense of the technician and politician play a predominant part.

Perhaps it is better so; however, in using common sense, one must not lose sight of the absolute necessity for sound economic and social statistics and good methods of analysis and forecasting in all fields.

Lacking this, planning would only be a series of blind bets without meaning, instead of being the 'reducer of uncertainty' mentioned by Pierre Massé 1/. And to obtain these statistics and to develop these methodologies, one must above all first train the men and invest in research.

1/ Pierre Massé: Le Plan ou l'anti-hasard, Paris NRF, 1965.